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Serial No.: 10/626,261

Confirmation No.: 9585

Filed: 24 July 2003

For: HARDENABLE THERMALLY RESPONSIVE COMPOSITIONS

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1-22. (Canceled)

23. (Previously Presented) A method of treating an oral surface comprising:

applying a thermally responsive composition in a low viscosity state at a pre-treatment temperature to hard tissue of the oral surface, the composition comprising a thermally responsive viscosity modifier, a polymerizable component different than the modifier, and water; and

allowing the composition to warm to a treatment temperature and increase in viscosity to a highly viscous state.

24-25. (Canceled)

26. (Original) The method of claim 23 wherein the viscosity of the composition at the treatment temperature is at least 5 times the viscosity of the composition at the pre-treatment temperature.

27. (Original) The method of claim 23 further comprising reducing the viscosity of the composition from the highly viscous state.

28. (Original) The method of claim 23 wherein reducing the viscosity comprises cooling the composition below the treatment temperature.

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29. **(Previously Presented)** A method of hardening a composition on an oral surface comprising:

applying a thermally responsive composition in a low viscosity state at a pre-treatment temperature to hard tissue of the oral surface, the composition comprising a thermally responsive viscosity modifier, a polymerizable component different than the modifier, and water;

allowing the composition to warm to a treatment temperature and increase in viscosity to a highly viscous state; and

inducing the polymerizable component to polymerize.

30-31. **(Canceled)**

32. **(Original)** The method of claim 29 wherein inducing polymerization comprises irradiating the composition.

33. **(Original)** The method of claim 29 wherein inducing polymerization comprises irradiating the composition with visible or ultraviolet light.

34. **(Original)** The method of claim 29 wherein inducing polymerization comprises introducing one or more additional components.

35. **(Original)** The method of claim 29 wherein the thermally responsive viscosity modifier comprises a poly(oxyalkylene) polymer.

36-39. **(Canceled)**

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40. **(Original)** The method of claim 29 wherein the composition further comprises an initiator.
41. **(Original)** The method of claim 40 wherein the initiator is a photoinitiator.
42. **(Original)** The method of claim 40 wherein the initiator is a free radical initiator.
43. **(Original)** The method of claim 29 wherein the composition further comprises an oxidizing agent and a reducing agent.
44. **(Canceled)**
45. **(Original)** The method of claim 29 wherein the thermally responsive composition further comprises an additive.
46. **(Original)** The method of claim 45 wherein the additive is selected from the group consisting of fluoride sources, whitening agents, anticaries agents (e.g., xylitol), remineralizing agents (e.g., calcium phosphate compounds), enzymes, breath fresheners, anesthetics, clotting agents, acid neutralizers, chemotherapeutic agents, immune response modifiers, medicaments, indicators, dyes, pigments, wetting agents, surfactants, buffering agents, viscosity modifiers, thixotropes, fillers, polyols, antimicrobial agents, antifungal agents, stabilizers, agents for treating xerostomia, desensitizers, and combinations thereof.
47. **(Canceled)**

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48. **(Original)** The method of claim 29 wherein applying the composition comprises delivering the composition through an orifice.
49. **(Original)** The method of claim 48 wherein the orifice is the orifice of a syringe.
50. **(Original)** The method of claim 29 wherein applying the composition is selected from the group consisting of painting the composition, brushing the composition, syringing the composition, misting the composition, spraying the composition, applying a substrate having the composition thereon, and combinations thereof.
51. **(Original)** The method of claim 29 wherein the thermally responsive composition comprises two or more parts, and wherein applying the composition comprises combining the two or more parts.
52. **(Original)** The method of claim 51 wherein combining comprises using a static mixing device.
53. **(Original)** The method of claim 29 wherein the viscosity of the composition at the treatment temperature, before inducing the polymerizable component to polymerize, is at least 5 times the viscosity of the composition at the pre-treatment temperature.
54. **(Original)** The method of claim 29 wherein the viscosity of the composition at the treatment temperature, after inducing the polymerizable component to polymerize, is at least 10 times the viscosity of the composition at the pre-treatment temperature.

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55. **(Original)** The method of claim 29 wherein the pre-treatment temperature is at most room temperature.

56. **(Original)** The method of claim 29 wherein the treatment temperature is body temperature.

57-59. **(Canceled)**

60-70. **(Canceled)**